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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/617,219	07/10/2003	Stephen Shuler	127039-2	2384

7590 12/17/2004  
Robert E. Walter  
GE Plastics  
One Plastics Avenue  
Pittsfield, MA 01201

EXAMINER

PATEL, KIRAN B

ART UNIT	PAPER NUMBER
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3612

DATE MAILED: 12/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/617,219

Applicant(s)

SHULER ET AL.

Examiner

Kiran B. Patel

Art Unit

3612

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 12-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 12-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### **Non-Final Rejection**

### **Claim Rejections - 35 USC § 112**

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims, elected for prosecution, are confusing and are not clear because claimed limitations, (claim 1, an energy absorber for attachment to a vehicle for absorbing forces generated from an impact;), are not shown in the figures and/or lacks support in the specification and therefore fails to particularly point out and distinctly claim the subject matter which applicant regards as the invention. These limitations must be shown or the feature(s) canceled from the claim(s). Applicant is requested to go through the application and ensure that the claimed matter has been described in the specification and shown in the drawing in such a way as to convey to one skilled in the art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Correction is required.

Regarding claim 1, "a molded mat of fiber reinforced resin material, said molded mat having a density of about 600 to about 3000 grams per square meter wherein density is determined by the weight of a square meter of said molded mat" fails to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

**Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-10, 12-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Evans (6,685,243) and in view of ordinary skill in the art.

Regarding claims 1-10, 12-25, Evans (6,685,243) discloses in Fig 1-10 the invention as claimed to include an elongated, unitary structure molded (col 5, lines 60-63) energy absorber 22 having a plurality of forwardly projecting crushable lobes 26, 27 adapted to crush upon impact, each said lobe comprising a front portion 54, a rear portion (energy absorber rear end near the vehicle around

reference 49) and a crush initiator portion Fig 4 between said front and rear portions, said initiator portion comprising a conically shaped portion Fig 2; a vehicle; a support portion (Fig 2); a forwardly facing front wall, at least a pair of adjacent lobes having interconnecting front walls; a fascia; a reinforcing bumper beam; a pedestrian leg portion Fig 4.

However, Evans (6,685,243) does not disclose a mat of fiber reinforced resin material, said mat having a density of about 600 to about 3000 grams per square meter wherein density is determined by the weight of a square meter of said molded mat; the energy absorber adapted to absorb energy during an impact of the vehicle; absorber of thermoformed or compression molded material; a low density glass mat thermoplastic composite; fiber reinforcement in a matrix of thermoplastic material; mat comprises a chopped glass fiber and a thermoplastic binder material comprising a polyester resin and polycarbonate; polyester is polyalkylene terephthalate; and polycarbonate is an polycarbonate.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the energy absorber using a mat of fiber reinforced resin material, said mat having a density of about 600 to about 3000 grams per square meter wherein density is determined by the weight of a square

meter of said molded mat; the energy absorber adapted to absorb energy during an impact of the vehicle; absorber of thermoformed or compression molded material; a low density glass mat thermoplastic composite; fiber reinforcement in a matrix of thermoplastic material; mat comprises a chopped glass fiber and a thermoplastic binder material comprising a polyester resin and polycarbonate; polyester is polyalkylene terephthalate; and polycarbonate is an polycarbonate, since it has been held to be within the general skill of a worker in the art to select a known available material on the basis of its suitability for the intended use for to provide the pedestrian energy absorber for vehicles and minimize the injury to the pedestrian.

Support for this obviousness is found in paragraph 0011 of the specification.

"According to an embodiment, the energy absorber 4 is compression molded from a low density glass mat thermoplastic composite (GMT). One such mat is prepared by AZDEL, Inc. and sold under the trademark SUPERLITE mat. The density as employed and defined herein is the weight of a square meter of the GMT. Preferably, the density of the GMT is from about 600 grams per square meter to about 3000 grams per square meter. The density may be less than

600 grams per square meter or greater than 3000 grams per square meter depending on the desired energy absorber impact wanted. Preferably, the upper density should be less than 3000 grams per square meter. The upper limit of the density should not so stiff as not to absorb the energy of impact on a pedestrian such as not to reduce the forces translated to a pedestrian's leg or leg's upon impact."

Above recitation clearly teaches that the molded mat having a density of about 600-3000 grams per square meter, wherein density is determined by the weight of a square meter of said molded mat, was available in the open market, the density can be less than 600 or more than 3000 grams per square meter, and it was within the general skill of a worker in the art at the time of the invention made to select the density depending on the desired impact on the pedestrian.

### **Response to Arguments**

1. Applicant's arguments filed 11/10/04 have been fully considered but they are not persuasive.

Applicant's argument that "Evans does not describe nor suggest an energy absorber that include a plurality of lobes" is responded to in the rejection.

In response to applicant's argument that "Evans does not describe nor suggest that the energy absorber is made from a molded mat of fiber reinforced resin material wherein the molded mat has a density of about 600 to 3000g/m<sup>2</sup>" is not valid because Examiner's reasoning is fully supported by the specification paragraph 0011 "According to an embodiment, the energy absorber 4 is compression molded from a low density glass mat thermoplastic composite (GMT). One such mat is prepared by AZDEL, Inc. and sold under the trademark SUPERLITE mat. The density as employed and defined herein is the weight of a square meter of the GMT. Preferably, the density of the GMT is from about 600 grams per square meter to about 3000 grams per square meter. The density may be less than 600 grams per square meter or greater than 3000 grams per square meter depending on the desired energy absorber impact wanted. Preferably, the upper density should be less than 3000 grams per square meter. The upper limit of the density should not so stiff as not to absorb the energy of impact on a pedestrian such as not to reduce the forces translated to a pedestrian's leg or leg's upon impact."


Above recitation clearly teaches that the molded mat having a density of about 600-3000 grams per square meter, wherein density is determined by the



weight of a square meter of said molded mat, was available in the open market, the density can be less than 600 or more than 3000 grams per square meter, and it was within the general skill of a worker in the art at the time of the invention made to select the density to minimize the forces translated to a pedestrian's leg or legs upon impact.

**Conclusion**

2. Any inquiry concerning this communication or earlier communications should be directed to Primary Examiner Kiran B. Patel whose telephone number is 703-305-0254. The examiner can normally be reached on M-F from 8:00 to 5:00. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

  
Kiran B. Patel, P. E.  
Primary Examiner  
Art Unit 3612  
December 7, 2004